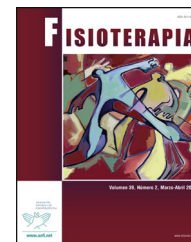




Fisioterapia

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ORIGINAL

## Overcoming challenges for exercise in the clinic, participation and adherence by patients with osteoarthritis of the knee

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### KEYWORDS

Osteoarthritis, Knee;  
Physiotherapy;  
Patient Compliance;  
Exercise adherence;  
Exercise in the clinic

### Abstract

**Objectives:** Ensuring participation and adherence to exercises in the clinic poses a challenge for physiotherapists. This study was designed to identify the type and factors that influence participation and adherence to exercises by patients with knee osteoarthritis (KOA).

**Material and method:** This quasi-experimental study randomized 105 patients referred for physiotherapy for KOA into three groups. Patients were required to exercise either aerobically using a cycle ergometer, strengthening exercises using weights and a quadriceps bench or stretching exercises on a gymnasium mat. The exercises were over 5 weeks, 3 times per week and of 30 min duration per session. The Self-Report Scale of Adherence to Physiotherapy was used to determine adherence to exercises and modified 12-item questionnaire for factors influencing adherence. Data were depicted using descriptive and inferential statistics with  $p < 0.05$  statistical significance.

**Result:** A total of 70 (66.7%) patients completed the study with a mean age of  $62.4 \pm 10.8$  years. Adherence to aerobic exercises was 28 (80%); strengthening 25 (71%) and stretching 17 (49%). The education level of the individuals and the decreased level of pain when engaging in the exercises had a statistically significant ( $p < 0.05$ ) positive influence on participation and adherence. Travel costs to the hospital, forgetting the exercises and increasing pain while engaging in the exercises had a negative impact on participation and adherence to exercises in the clinic.

**Conclusion:** Physiotherapists must consider the type, level of pain, complexity of exercises and travel costs when prescribing exercises in the clinic for patients with KOA. These are relevant factors for participation and adherence to exercises in the clinic.

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**PALABRAS CLAVE**

Osteoarthritis, rodilla;  
Fisioterapia;  
Cumplimento del  
paciente;  
Ejercicio adherencia;  
Ejercicio en la clínica

**Superar los desafíos para el ejercicio en la clínica, la participación y la adherencia de los pacientes con osteoartritis de la rodilla**

**Resumen**

*Objetivos:* La participación y adherencia al ejercicio en clínica constituyen un reto para los fisioterapeutas. Este estudio fue diseñado para identificar el tipo y los factores que influyen en la participación y adherencia al ejercicio en pacientes con artrosis de rodilla (AR).

*Material y Método:* En este estudio casi-experimental participaron 105 pacientes remitidos a fisioterapia para AR, que fueron aleatorizados en tres grupos. Realizaron ejercicio aeróbico con cicloergómetro, fortalecimiento usando mancuernas y banco de cuádriceps o estiramientos durante más de 5 semanas, 3 veces por semana, 30 minutos por sesión. Se utilizó la Escala autoadministrada de Adherencia a la Fisioterapia y el cuestionario modificado para los factores que influyen en la adherencia. Se realizó estadística descriptiva e inferencial con una significación estadística  $p < 0,05$ .

*Resultados:* Participaron 70 (66,7%) pacientes, con edad media de  $62,4 \pm 10,8$  años. La adherencia al ejercicio aeróbico fue de 28 (80%), de 25 (71%) en el fortalecimiento y de 17 (49%) en los estiramientos. El nivel educativo y el nivel de dolor reducido al realizar los ejercicios mostraron una influencia estadísticamente significativa ( $p < 0,05$ ) en la participación y adherencia. Los gastos de desplazamiento al hospital, el olvido de los ejercicios y el aumento del dolor con los ejercicios influyeron negativamente en la participación y adherencia.

*Conclusión:* Los fisioterapeutas deben considerar el tipo y nivel de dolor, la complejidad del ejercicio y los gastos de desplazamiento al prescribir ejercicios en pacientes con AR. Estos son factores relevantes para la participación y adherencia al ejercicio en clínica.

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**Introduction**

Osteoarthritis (OA) is a chronic degenerative musculoskeletal disorder and disabling joint disease, which damages the articular surfaces of the bone, cartilage, synovial membrane, causing swelling of the joint with newly formed bones and inflammations.<sup>1</sup> It affects mostly elderly people, approximately 11% of the adults 65 years and older.<sup>1</sup> Osteoarthritis is a common chronic disease and costly public health problem.<sup>2</sup> The disease affects people of all ethnic groups in all geographical locations, and it is the most common long-term cause of disability particularly in the elderly. Despite convincing evidence of the benefits of exercise for people with knee OA, adherence to a regular exercise program is critical.<sup>3</sup> Composite ranges of factors influence a person's decision to commence, and maintain, participation in exercise. These, include attitude toward exercise, perceived severity of knee symptoms, ideas about the cause of arthritis, and the perceived effectiveness of the intervention, the high levels of continued compliance were related to perceptions that physiotherapy is effective and improvement in symptoms.<sup>2</sup>

Physical activities and exercises are integral for rehabilitation and are prescribed for cardio-respiratory fitness and improve neuro-musculoskeletal function with many studies supporting the therapeutic benefits of exercises.<sup>4</sup> Exercises increase blood flow to the limbs and relieves pain by increasing endogenous opioids and transient anti-nociception in humans and animals.<sup>5</sup> Studies show by engaging in exercises anti-nociception are produced for longer which increases

the concentrations of plasma and cerebrospinal fluid opioids which reduce chronic neuropathic pain.<sup>6</sup> Healthcare professionals emphasize the benefits of exercises to patients and use exercise programs to rehabilitate physical and physiological conditions in clinical practice. Adherence to treatment and rehabilitation is important and can determine the outcome of prescribed treatment.<sup>7</sup>

In physiotherapy, the concept of adherence is different in nature with different dimension and could relate to undertaking prescribed exercises, frequency of undertaking prescribed exercise, attendance at appointments, following advice, correct performance of exercises.<sup>8</sup> In the clinical setting adherence refers to a patient's behavior corresponding to agreed recommendations to activities from a healthcare provider.<sup>9</sup> When applied to orthopedic rehabilitation the use of various modalities, including exercises can be challenging as the concept of adherence is multi-dimensional. Some of these relate to attending exercise sessions, engaging in prescribed exercises, incorrect performance or forgetting the sequence of movements of the exercise programs.<sup>10</sup> There is also evidence that patients adhering to treatment protocols have better treatment outcomes than those who do not adhere which impacts negatively on clinical costs, rehabilitation staff and disease profiles.<sup>11</sup>

However patients are reluctant to engage in exercises and physical activities for fear of making their condition worse which leads to a state of inactivity and a sedentary lifestyle.<sup>12</sup> Therefore in clinical practice physiotherapists and nurses report poor adherence to programs

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